

PROW COMMENT Protein Reviews On The Web NCI NCI ?

PROW and IWHIDA present the GUIDE on:

CD148

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Reviewer: Hidejaka Yakura

FUNCTION	STRUCTURE	INTERACTIONS	EXPRESSION	INSIGHTS	REAGENTS	REFERENCES	WWW
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COMMENT ALTERNATE NAMES FOR CD148

- HPTP- α
- high cell density-enhanced PTP 1, DEP-1
- p260

COMMENT MAJOR LINKS FOR CD148

- NCBI LocusLink Record: 5795
- Mendelian Inheritance in Man (OMIM): 600925
- SwissProt annotated protein record: Q12913

COMMENT BIOCHEMICAL ACTIVITY OF CD148

FUNCTION

- Tyrosine phosphatase RPTPase, type III, Fisher et al. 1991

COMMENT CELLULAR FUNCTION OF CD148 - Unknown

COMMENT DISEASE RELEVANCE OF CD148 AND FUNCTION OF CD148 IN INTACT ANIMAL - unknown

TOP

COMMENT MOLECULAR FAMILY FOR CD148

STRUCTURE

- Families in which CD148 is a member
 - CD148-->RPTP type III-->protein tyrosine phosphatase receptor-->phosphatases

COMMENT MOLECULAR STRUCTURE OF CD148

- Single chain type I transmembrane molecule
- 1337 AA
- 970 AA extracellular region
- 25 AA transmembranous domain
- 342 AA intracellular region
- 1 intracytoplasmic protein tyrosine phosphatase domain
- 10 fibronectin type III domains in the extracellular domain

COMMENT MOLECULAR MASS OF CD148

CELL TYPE	MW UNREDUCED	MW REDUCED	Comment
PBMC	240-260	240-260	Variation depending on investigator
HL60	200-250	200-250	Variation depending on investigator and clone

COMMENT POST-TRANSCRIPTIONAL MODIFICATION OF CD148 - Unknown, but possible

COMMENT POST-TRANSLATIONAL MODIFICATION OF CD148

- 34 potential N-glycosylation sites
- O-glycosylated
- Sialylated
- Treatment with Endoglycosidase F, O-glycanase and neuraminidase reduces molecular weight
- Phosphorylation status: unknown

TOP

COMMENT PROTEINS AND DNA ELEMENTS WHICH REGULATE TRANSCRIPTION OF CD148 - Unknown

MOLECULAR INTERACTIONS

COMMENT SUBSTRATES FOR CD148

- Tyrosine phosphorylated proteins

COMMENT ENZYMES WHICH MODIFY CD148 - Unknown

COMMENT LIGANDS FOR CD148 AND MOLECULES ASSOCIATED WITH CD148 - Unknown

TOP

COMMENT MAIN CELLULAR EXPRESSION OF CD148

EXPRESSION

- Granulocytes
- Monocytes
- Resting T cells (weakly), upregulation following T-cell activation, memory
- T-cells show higher levels of expression
- Dendritic cells
- Platelets
- Fibroblasts
- Nerve cells
- Kupfer cells
- Widely distributed antigen

TOP

COMMENT AUTHOR'S ADDITIONAL INSIGHTS ON CD148

- Strong upregulation in fibroblast cultures grown to high density, could suggest that HPTP- α /Dep-1 is involved in contact inhibition of cell growth
- Chromosomal localization of HPTP- α is 11p11.1. This region of Chromosome 11 is frequently deleted in carcinomas (breast, hepatocellular, and bladder)

TOP

COMMENT CD148-SPECIFIC MABS NEWLY ASSIGNED AT SIXTH INTERNATIONAL WORKSHOP

REAGENTS

NAME(Workshop ID#)	SOURCE or REFERENCE	COMMENT
143-1 (N-L027, M56)	Villuela, Barcelona, Spain	
A3 (61-083, M4)	Aversa, Palo Alto, CA, USA	

COMMENT SELECTION OF OTHER CD148-SPECIFIC REFERENCE MAB - None**TOP**
COMMENT SELECTED REFERENCES ON CD148

REVIEWS

PRIMARY CITATIONS

1. Fischer EH, Chabouneau H, Tonks NK. Protein tyrosine phosphatases: a diverse family of intracellular and transmembrane enzymes. *Science* 1991 253:401 [PubMed](#)
2. Honda H, Inazawa J, Nishida J, Yazaki Y, Hirai H. Molecular cloning, characterization, and chromosomal localization of a novel protein-tyrosine phosphatase, HP1P. *Blood* 1994 84:4186 [PubMed](#)
3. Ostman A, Yang Q, Tonks NK. Expression of DEP-1, a receptor-like protein-tyrosine-phosphatase, is enhanced with increasing cell density. *Proc Natl Acad Sci U S A* 1994 91:9680 [PubMed](#)

WWW RESOURCES

* indicates ammended by reviewer. ** indicates added by reviewer

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